South Star Cogeneration LLC is seeking approval from the CEC to construct and operate the South Star Cogeneration Project (South Star) in western Kern County approximately 35 miles southwest of Bakersfield, California. The South Star Project will consist of two substantially identical cogeneration plants, South Star I (Section 17, T32S, R23E) and South Star II (Section 7, T32S, R23E), that are located approximately 1.5 miles apart on contiguous Texaco California Inc. (TCI) property in the South Midway-Sunset Oilfield. The Application for Certification (AFC) presents an evaluation of the entire South Star Project in a manner to clearly indicate the environmental affects associated with each site and its related linear facilities.

South Star I includes the following project components shown on Figure 2-1:

- South Star I site;
- Replacement of poles and conductor for approximately 4.7 miles of existing 12.47 kV transmission line;
- 0.6 mile 115 kV transmission line extension to South Star I site;
- Alternative stand-alone 5.3 mile 115 kV transmission line;
- 3.6 miles of natural gas line (Kern-Mojave to Station 109 and natural gas line placed within TCI South Midway Utility Corridor Segment A);
- Approximately 2.4 mile Alternative Route 1 natural gas line; and
- Improved access road (Midoil Road to South Star I site).

South Star II includes the following project components as shown on Figure 2-1:

- South Star II site;
- 3.8 mile addition of second 115 kV circuit on proposed South Star I transmission line;
- 1.4 miles of natural gas line (placed within TCI South Midway Utility Corridor Segment B);
- Alternative aboveground Route 2 natural gas line; and
- Improved access road (Midoil Road to South Star II site).

This section presents an evaluation of the potential environmental and human health effects related to hazardous and non-hazardous wastes generated by the proposed South Star Cogeneration Project (South Star). Refer to Section 2.0 for a full project

description. Included in this section are discussions of the environmental conditions of the proposed South Star I and II Project sites, as well as issues related to the generation, handling, and disposal of wastes.

8.13.1 Environmental Condition of Site

A Phase I Environmental Site Assessment (Phase I ESA) for each site was performed by URS (URS, 2001). The Phase I ESA established that no environmental conditions were recognized at either the South Star I or II sites. The Phase I ESA is contained in its entirety in Appendix G.

8.13.2 Waste Generation, Storage, and Handling

The following section describes wastes that will be produced during construction and operation both South Star I and II Project sites and associated storage and handling facilities. Waste categories include sanitary wastewater, non-hazardous solid and liquid waste, and hazardous solid and liquid waste.

8.13.2.1 Construction Phase

Both non-hazardous and hazardous wastes will be generated during the construction phase of South Star I and II. Only small volumes of hazardous wastes will be generated and, when handled in accordance with existing regulations, both non-hazardous and hazardous wastes will not impact the environment or human health.

Non-Hazardous Wastes. The types of non-hazardous waste that will be generated during the construction phase of either South Star I or II Project site include primarily debris and other materials requiring removal during site grading and excavation. These materials include paper, wood, glass, plastics, excess concrete, scrap metal, calcium silicate insulation, mineral wool insulation, empty non-hazardous material containers, steel cuttings, packaging metal, and electrical wiring waste. Approximately 40 cubic yards of these loosely packed materials will be generated weekly during construction. Recycling of wastes will be maximized to include materials such as scrap metal, copper wire, empty containers, and absorbent materials. Approximately 20 cubic yards every 2 to 3 weeks will be recycled during construction. The remaining wastes will be placed into covered, temporary

storage containers until periodic removal for disposal at an off-site Class II or III land disposal facility.

Some non-hazardous wastewater will also be generated during the construction phase of both South Star I and II sites. This wastewater will consist of sanitary wastewater, equipment wash water, and stormwater runoff. Sanitary waste will be collected in portable chemical toilets, and will be removed from each site and disposed of periodically by licensed contractors. Equipment wash water will be collected and contained in specially designated areas and will be recycled where feasible or removed from the site for appropriate treatment and disposal. Stormwater runoff will be handled appropriately according to the general industrial permit that will be obtained prior to construction for each site.

All non-hazardous wastes generated during the construction phase of each site will be handled and disposed of appropriately according to standard procedures and all applicable laws, ordinances, regulations, and standards (LORS).

Hazardous Wastes. The types of hazardous waste that may be generated during the construction phase of both South Star I and II include small amounts of contaminated soil or other solids and small volumes of waste oil, cleaning fluids, solvents, paints, and welding materials. Many of these wastes will be recycled under the "excluded recyclable" provision of Title 22 of the California Code of Regulations. Wastes that require off-site disposal will be characterized by applying generator knowledge or analytical testing to determine the appropriate management and handling of the waste. Once properly characterized, the wastes will be temporarily accumulated on site; the wastes will be stored in appropriate containers according to all applicable hazardous waste storage LORS. Then the wastes will be transported by a licensed hazardous waste hauler to a recycling/transformation facility or an off-site Class I disposal facility.

The construction contractor will be considered the generator of the hazardous wastes, and will be responsible for appropriate handling, storage, transfer, and disposal of hazardous wastes generated. Hazardous wastes will be accumulated on site for less than 90 days, in accordance with applicable laws and regulations. Approximate volumes of

hazardous wastes expected to be generated during construction of the project are listed in Table 8.13-1.

All hazardous wastes generated during the construction phase of both South Star I and II will be handled and disposed of appropriately according to standard procedures and applicable LORS. When handled properly, non-hazardous and hazardous wastes generated during the construction phase of both South Star I and II will not impact the environment or human health.

8.13.2.2 Operation Phase

Both non-hazardous and hazardous wastes will be generated during operation of each South Star I and II Project site. The primary waste will be non-hazardous wastewater. These wastes and their estimated quantities are discussed below.

Non-Hazardous Wastes. The types of non-hazardous waste that will be generated during the operation phase of each South Star I and II Project site include sanitary wastewater, compressor washwater, surface water runoff, evaporative cooler blowdown, solid maintenance wastes, and standard office wastes. Where appropriate, wastes will be recycled, and the remaining wastes will be placed into appropriate storage containers until periodic removal from the site.

All sanitary wastewater will be routed, via a sanitary waste lift station, to an on-site septic tank and leach field. This system will only accept sanitary wastewater from sinks, toilets, and other service water system wastes. As part of the siting process, the size of the septic tank and leach field will be determined. Sludge ordinance compliance of the septic system will be determined with guidance from the Kern County Waste Management Department.

Water collected from the off-line compressor wash will be collected in an underground wastewater tank, along with wastewater from the transformer sump drains and various facility drains. Stormwater collected in bermed areas around equipment will also be collected in the underground wastewater tank. Water collected in the tank will be pumped via an aboveground pipeline that will interconnect with the TCI South Midway Utility Corridor wastewater line. The TCI wastewater line is connected to the Valley Waste system for

disposal. On-line wash of the compressors with demineralized water will not generate wastewater. Stormwater that will not come into contact with chemicals will flow to drainage ditches and will be directed off site to natural drainage.

Wastewater will also be generated from the evaporative coolers. The water removed from the evaporative coolers (blowdown) will be combined with the boiler feed water. Boiler feed water will be used as make up water for the heat recovery steam generators. Volumes and composition of the wastewaters produced are presented in Table 8.13-2. Water and wastewater streams are schematically represented in Figure 2-6a for annual average flow and Figure 2-6b for peak daily flow.

Each South Star I and II facility will produce solid wastes from maintenance and office activities typical of industrial facilities. These wastes include rags, broken and rusted metal and machine parts, defective or broken electrical materials, empty containers, and other solid wastes. Where appropriate, wastes will be recycled and the remaining wastes will be placed into covered, temporary storage containers until periodic removal for disposal at an off-site Class III land disposal facility.

All non-hazardous wastes generated during the operation phase of both South Star I and II will be handled and disposed of appropriately according to standard procedures and all applicable LORS.

Hazardous Wastes. Types of hazardous waste that will be generated during the operation phase of each South Star I and II site include spent SCR and oxidation catalyst, waste oils, and other maintenance wastes (see Table 8.13-3). Many of these wastes will be recycled under the "excludable recyclable" provisions of Title 22 of the California Code of Regulations. The wastes that require disposal will be characterized by applying generator knowledge or analytical testing to determine management and handling of the waste. Once properly characterized, the wastes will be temporarily stored on site; the wastes will be stored in appropriate containers with secondary containment according to all applicable hazardous waste storage LORS. Secondary containment will be provided using commercially available storage buildings with integral secondary containment or with a concrete pad equipped with a berm. Then the wastes will be transported by a licensed hazardous waste hauler to an off-site

recycling facility or an off-site Class I TSDF. The handling, storage, transfer, and disposal of hazardous wastes will comply with all applicable LORS. When handled properly, hazardous wastes generated during operations of each South Star facility will not impact the environment or human health.

It is estimated that approximately 1,050 cubic feet (or 35,000 lbs.) of spent SCR catalyst will be generated from each South Star I and South Star II facility every three to five years. The catalyst will be returned to the manufacturer for metals reclamation and/or disposal. Other hazardous wastes expected to be generated from operations of South Star I and South Star II include paint and thinner waste (250 gals./yr.), lead acid batteries (290 lbs./yr.), natural gas filters (37 lbs./yr.), consumer-type batteries (33 lbs./yr.), spent sandblast media (75 lbs./yr.), and non-empty aerosol cans (25 lbs./yr.). A description of these wastes is included in Table 8.13-3. Heavy metals accumulate in the SCR catalyst, causing the catalyst to be considered hazardous waste.

Each combustion turbine has a capacity of 6,200 gallons for lubricating oil. It is estimated that this volume of lubricating oil will be replaced every six years. These oils must be replaced to ensure proper operation of the turbines. Approximately 300 gallons of waste oils from other equipment will be generated per site annually. These oils will be recycled where feasible.

Properly trained personnel will be present during all handling of hazardous materials/wastes to respond appropriately in case of an accidental release of these materials.

All hazardous wastes generated during the operation phase will be handled and disposed of appropriately according to standard procedures and all applicable LORS.

8.13.3 Waste Disposal Sites

This section reviews the non-hazardous and hazardous waste disposal facilities, which may feasibly be used for disposal of project wastes.

8.13.3.1 Non-Hazardous Waste Disposal Facilities

Non-hazardous wastes will be removed from each South Star site periodically for disposal or recycling. Potential local Class III land disposal facilities include the Bena

Sanitary Landfill, Shafter-Wasco Sanitary Landfill, and the Taft Sanitary Landfill. Currently there are no enforcement actions against these three sanitary landfills that could affect future availability of these facilities (Given, 2001). Some liquid non-hazardous wastes collected in the underground wastewater tank will be routed to Valley Waste, a petroleum industry-based Class II wastewater disposal facility, via an aboveground pipeline that will inter-connect with TCI wastewater line on the TCI South Midway Utility Corridor.

Bena Sanitary Landfill. This Class III disposal facility is located 17 miles east of Bakersfield, off Highway 58 at Bena Road, approximately 40 miles from the proposed South Star Project sites. This facility is owned and operated by the Kern County Waste Management Department. Accepted waste types include agricultural wastes, construction and demolition waste, and mixed municipal waste. The facility has a permitted capacity of 52 million cubic yards, with a remaining capacity of 45 million cubic yards. The estimated closure date is 2039 (Given, 2001).

Shafter-Wasco Sanitary Landfill. This Class III disposal facility is located on Scofield Avenue, one mile north of Lerdo Highway near Wasco, approximately 35 miles from the proposed South Star Project sites. This facility is owned and operated by the Kern County Waste Management Department. Accepted waste types include construction and demolition waste, mixed municipal waste, and tires. The facility has a permitted capacity of 10.2 million cubic yards, with a remaining capacity of 3.8 million cubic yards. The estimated closure date is 2030 (SWIS, 2001).

Taft Sanitary Landfill. This Class III disposal facility is located on Elk Hills Road, one mile north of Highway 119 near Taft, approximately 10 miles from the proposed South Star project sites. This facility is owned and operated by the Kern County Waste Management Department. Accepted waste types include ash, construction and demolition waste, mixed municipal waste, and tires. The facility has a permitted capacity of 8.9 million cubic yards, with a remaining capacity of 2.7 million cubic yards. The estimated closure date is 2040 (SWIS, 2001).

Valley Waste Wastewater Disposal. This organization is owned by a consortium of oil companies and operates numerous disposal facilities throughout the Central

Valley. The facility that may accept wastewater from South Star I and II Project sites is the Valley Waste Buena Vista Facility #2. It is located approximately 2 miles north of the town of Fellows, immediately east of Highway 33, approximately 5 miles from the proposed cogeneration plant sites. The wastewater will be pumped to a TCI wastewater pipeline on the TCI South Midway Utility Corridor for disposal to the Valley Waste system. The facility only accepts Class II non-hazardous wastewater; the wastewater is injected into Class II injection wells.

8.13.3.2 Hazardous Waste Disposal Facilities

The hazardous waste generated from both South Star I and II Project sites will be disposed of at nearby hazardous waste TSDFs. In California, there are three major commercial Class I disposal facilities that accept hazardous wastes. The status of these facilities is summarized below.

Safety-Kleen® Environmental Services -- Buttonwillow Facility (EPA ID# CAD980675276). This permitted Class I disposal facility is located in Kern County on Lockern Road between Highways 33 and 58, near Buttonwillow. The facility is approximately 20 miles from the proposed South Star I and II Project sites. Categories of wastes handled include aqueous wastes, contaminated soil, inorganic and organic sludges, polychlorinated biphenyls (PCBs) with a concentration of less than 50 parts per million (ppm), cyanide and sulfide reactives, and substances with metals exceeding concentration limits set by the Toxicity Characteristic Leaching Procedure (TCLP) standard and/or California hazardous waste limits. Onsite treatment and disposal methods include evaporation, landfilling, and solidification/stabilization. The facility has a permitted capacity of 13,800,000 cubic yards, and a remaining capacity of 10,850,000 cubic yards. The estimated closure date is 2036. Currently, the facility is not involved in any major clean-up actions that could affect the future availability of the facility (Buona, 2001)

Chemical Waste Management -- Kettleman Hills Facility (EPA ID# CAT000646117). This permitted Class I disposal facility is located in Kings County off of Highway 41 west of Kettleman City. It is approximately 60 miles from the proposed South Star I and II Project sites. Categories of wastes handled include organic sludges and solids, PCBs < 50 ppm, pesticides, cyanide and sulfide reactives, halogenated and non-halogenated

solvents, substances with metals that exceed the TCLP limits and/or California hazardous waste limits, and waste acids, caustics, and oil. Onsite treatment and disposal methods include evaporation, landfilling, neutralization, pesticide hydrolysis, and stabilization. The facility has a permitted capacity of 10.7 million cubic yards, with future plans to increase the capacity to 16.7 million cubic yards. Currently, the remaining capacity is 6 million cubic yards. If the current intake volume remains constant, the estimated closure date is 2007. However, the proposed expansion will extend the closure date to the year 2013. Currently, the facility is not involved in any major clean-up actions that could affect the future availability of the facility (Yarbrough, 2001).

Safety-Kleen® Environmental Services -- Imperial County Disposal Facility (EPA ID# CAD000633164). This permitted Class I disposal facility is in Imperial County approximately 7 miles west of Westmoreland on Highway 86. It is approximately 300 miles from the proposed South Star I and II Project sites. Categories of wastes handled include aqueous wastes, contaminated soil, inorganic and organic sludges and solids, latex paint sludges, PCBs < 50 ppm, pesticides, substances with metals that exceed the TCLP limits and/or California hazardous waste limits, and waste acid, caustic, and oil sludges. Onsite treatment and disposal methods include landfilling, microencapsulation, neutralization, and solidification/stabilization. After planned construction of two additional land disposal cells (2,600,000 cubic yards), the facility will have a permitted capacity of 6,100,000 cubic yards. The current available capacity is approximately 2,500,000 cubic yards. With construction of the two additional cells, the estimated closure date is 2050. Currently, the facility is not involved in any major clean-up actions that could affect the future availability of the facility (Smith, 2001).

8.13.3.3 Waste Recycling Facilities

This section lists a few facilities that may provide the South Star Project with waste diversion opportunities. Potential waste recycling facilities include McKittrick Waste Treatment, Morton Recycling Inc., and Tehachapi Recycling.

McKittrick Waste Treatment Site. This disposal/treatment facility is located on Highway 58 in McKittrick. Categories of wastes handled include contaminated soil,

industrial wastes, and other designated wastes. The facility is owned and operated by Sanfill Incorporated.

Morton Recycling Facility. This disposal/treatment facility is located in Maricopa. It is designated as a materials recovery facility (MRF) and also as a contaminated soil operations and transfer facility. The facility is owned and operated by Morton Recycling, Inc.

Tehachapi Recycling Facility. This disposal/treatment facility is located on Dennison Road in Tehachapi. Categories of wastes handled include construction and demolition waste, green materials, and mixed municipal waste. Tehachapi Recycling is designated as a MRF. The facility is owned and operated by Benz Sanitation Service.

8.13.4 Waste Disposal Impacts

The following section describes the potential impacts that the South Star I and II Project sites may have on the aforementioned hazardous and non-hazardous waste disposal capacities. Many of the wastes generated by South Star I and II Project sites will be recycled, minimizing the amount of wastes for disposal and minimizing impacts on waste disposal capacities.

8.13.4.1 Non-Hazardous Waste Impacts

It is anticipated that non-hazardous waste disposal from both South Star I and II will not significantly decrease the capacity of waste disposal facilities used by South Star. With active waste recycling efforts in place, along with the currently available Class II or III waste disposal capacity, the incremental decrease in available waste disposal capacity can be considered insignificant.

8.13.4.2 Hazardous Waste Impacts

It is anticipated that hazardous waste disposal from both South Star I and II will not significantly decrease the capacity of the waste disposal facilities used by South Star. With active waste recycling efforts in place, along with the currently available Class I waste disposal capacity, the incremental decrease in available waste disposal capacity can be considered insignificant.

8.13.5 Waste Mitigation Measures

The handling and management of waste generated by the South Star I and II Project sites will follow the hierarchy approach of waste reduction set forth in the Public Resources Code (PRC) Section 40000 et seq.: source reduction, waste recycling, and waste disposal.

During construction of both South Star I and II, substantial volumes of non-hazardous wastes will be generated. A significant portion of these wastes can be diverted from the local Class II or III disposal facility with proper mitigation measures. Where feasible, these wastes will be recycled or reused. Other non-hazardous waste mitigation measures were mentioned previously in Section 8.13.2 and will be used to minimize waste disposal impacts.

8.13.5.1 Non-hazardous Solid Waste

Non-hazardous solid wastes to be generated at the South Star I and II sites are of minor quantities and will require no further mitigation. Non-hazardous solid wastes will either be recycled (paper, glass, metals, etc.) or will be disposed at the nearby Sanitary Landfills in Kern County. Therefore, no further mitigation of non-hazardous solid wastes is needed.

8.13.5.2 Wastewater

Generation of non-hazardous wastewater at both South Star I and II will be minimized, as practical, by standard water-conservation measures. Wastewater will be pumped via aboveground pipelines on the TCI South Midway Utility Corridor wastewater line for disposal at Valley Waste.

8.13.6 Facility Closure

Facility closure of South Star I or II involves either temporary or permanent closure. Temporary closure could be due to general facility maintenance; replacement of one or more critical operating components of the facility; a disruption in the supply of critical natural gas, chemicals, or labor; or a natural occurrence beyond the control of plant operators (e.g. flooding, earthquake, fire, etc.). Permanent closure of the facility could result from

similar causes, but could also include causes such as facility obsolescence, irreparable damage to the facility, economic forces, or other unforeseen causes. Waste management issues associated with the temporary or permanent closure of the facility are discussed below. See Section 4.0, Facility Closure, for more closure information.

8.13.6.1 Temporary Closure

In the case of an unforeseen temporary closure of either South Star I or South Star II in which there is no accidental release of hazardous materials, a contingency plan for cessation of operations will be implemented. This plan will be prepared prior to operation of South Star I and II. The plan will ensure, that throughout temporary closure, all facility operations will comply with all applicable laws, ordinances, regulations, and standards. Depending on the length of the closure, hazardous materials may be eliminated from the facility by removing materials from their respective storage containers and/or by halting delivery of hazardous materials. In this case, these wastes will be disposed of according to all applicable LORS. It is also possible that temporary closure of the facility could cease waste-generating activities. In this case, periodic removal of wastes from the facility will be halted until appropriate to resume.

For an unforeseen temporary closure of either South Star I or II in which there is an accidental release of hazardous materials, procedures set forth in the Hazardous Material Business Plan as described in Section 8.12, Hazardous Material Handling, will be followed. The Plan will ensure appropriate measures are developed to respond to accidental release of hazardous materials, clean up of hazardous materials, and notify authorities and the public of the release of hazardous materials.

8.13.6.2 Permanent Closure

Management of hazardous and non-hazardous wastes for permanent closure of South Star I or South Star II will be addressed in the general closure plan. At the time of permanent closure, facility management will maximize recycling efforts to prevent an excess of waste generation resulting from the closure. Unused chemicals will be sold back to the suppliers, other purchasers, or users. All equipment containing hazardous material residue will be decommissioned, according to a decommissioning plan that will be prepared at the

appropriate time, to protect the environment and human health. All non-hazardous wastes will be removed from each facility and disposed of in a Class II or III land disposal facility.

8.13.7 Cumulative Impacts

Based on information obtained from the Department of Toxic Substances Control (DTSC), Kern County Environmental Health Department, and each respective Class I, Class II or Class III disposal facility, the impacts on waste disposal capacity are expected to be insignificant. In comparison to similar proposed projects in the vicinity, namely La Paloma Generating Project, Elk Hills, and Sunrise Power Project, waste generation from the South Star I and II Project sites is less. However, based on each South Star Project site being approximately one-tenth the size of the La Paloma Project, its waste generation would be expected to be about one-tenth the magnitude of the La Paloma Project, and insignificantly small. In combination, these aforementioned projects, each with insignificant individual impacts on waste disposal capacity, present a larger, yet still insignificant, waste disposal impact to Class I, Class II, and Class III disposal capacities. With feasible recycling, reuse, and treatment actions in place throughout the construction and operation of this project, waste generation impacts will remain insignificant. Also, the DTSC and U. S. Environmental Protection Agency (U.S. EPA) agree that hazardous waste treatment capacity in California more than satisfies the current demand for hazardous waste treatment.

8.13.8 Monitoring

As was determined in the Phase I Environmental Site Assessment, there is a potential at both South Star I and II Project sites to encounter petroleum-contaminated soils during construction. Consequently, appropriate procedures will be followed during each site's construction phase to ensure that if contaminated soils are encountered, they will be appropriately characterized, removed, and disposed.

Valley Waste does not require waste monitoring plans of its customers. If significant deterioration of wastewater quality occurs at the Buena Vista #2 facility, Valley Waste will attempt to backtrack the source of deterioration (Bright, November 1998). Hazardous wastes generated by the proposed project will also ensure appropriate

characterization and disposal. Appropriate programs will be in place to ensure that wastes are properly handled and disposed.

8.13.9 Laws, Ordinances, Regulations, and Standards

The following section lists the laws, ordinances, regulations, and standards (LORS) that are applicable to hazardous waste storage, handling, and disposal activities of the proposed South Star I and II Project. These LORS are in place to protect employees, the environment, and the surrounding community from exposure to hazardous and non-hazardous wastes. A discussion of the LORS presented in this section. The jurisdiction, authority, and administering agency of each of the LORS applicable to South Star I and II are presented in Table 8.13-4. Also in Table 8.13-4 is a specific reference to subsections of the Waste Management section where conformance with each applicable LORS is discussed.

Federal LORS. Hazardous and non-hazardous wastes are governed in part by the Resource Conservation and Recovery Act (RCRA). As required by RCRA, an application for a hazardous waste generator identification number will be coordinated through the EPA and the DTSC.

40 CFR Parts 260-272 govern the generation, transportation, treatment, storage, and disposal of hazardous waste through a comprehensive management system. These sections also lists characteristics of hazardous wastes including ignitability, corrosivity, reactivity, and toxicity. Subtitle D of this Part grants authority for regulating non-hazardous waste to the State.

49 CFR Parts 172, 173, and 179 provide standards for labels, placards, and markings on hazardous waste shipments by truck, and standards for packaging hazardous wastes.

42 USC 6922 sets forth standards applicable to generators of hazardous waste regarding record keeping, labeling practices, informing hazardous waste transporters of general composition of wastes, use of a manifest system, and reporting requirements from the generators.

State LORS. The Hazardous Waste Control Act (HWCA) of 1972 is codified in Section 25100 et seq. of the California Health and Safety Code (H&SC). Regulations are found in 22 CCR 66001 et seq. and address the management of hazardous wastes. These management issues include:

- Characterizing wastes;
- Obtaining a waste identification number;
- Implementing a waste reduction program;
- Manifesting wastes;
- Packaging and labeling of wastes;
- Record keeping;
- Monitoring; and
- Emergency preparedness.

22 CCR 67100, Hazardous Waste Source Reduction and Management Review, requires waste generators, based upon specific quantities of hazardous waste generated, to develop a plan for reducing hazardous wastes. Then, if applicable, generators must prepare a hazardous waste management performance report every four years.

A waste management plan will be prepared prior to start-up to ensure proper storage, labeling, packaging, record keeping, manifesting, minimization, and disposal of all hazardous materials and wastes. The waste management plan will include:

- A description of each hazardous waste stream;
- Handling, transport, treatment, and disposal procedures for each waste;
- Preparedness, prevention, contingency, and emergency procedures; and
- Personnel training.

Procedures to minimize hazardous waste generation will be established. Employees will be trained in procedures to reduce the volume of hazardous waste generated at the South Star I and II facilities. The procurement of hazardous materials will be controlled to minimize surplus materials onsite and to prevent unused materials from becoming “off-spec”. Non-hazardous materials will be used in lieu of hazardous materials whenever

possible. Hazardous materials will be reused whenever possible. Hazardous wastes will be recycled whenever possible.

The California Health and Safety Code Sections 25500 et seq., Hazardous Materials Business Plans require emergency response plans from facilities storing hazardous materials in excess of 55 gallons, 500 pounds, and 200 cubic feet. Hazardous wastes or mixtures of hazardous wastes are included in the definition of hazardous materials. Inventories prepared in accordance with this requirement will include information on hazardous wastes.

Prior to facility start-up, application will be made to the CalEPA Department of Toxic Substances Control (DTSC) for a hazardous waste generator number.

All hazardous wastes will be stored onsite for less than 90 days (or other accumulation periods as allowed by 22 CCR 66262.34 for hazardous waste generators) and will be managed in accordance with state and federal hazardous waste generator requirements. Hazardous wastes, as well as hazardous materials that are spilled or otherwise become unsuitable for use, will be stored in an appropriately segregated hazardous waste storage area. Hazardous waste will be stored in a commercially available storage shed with integral secondary containment or in a sealed concrete hazardous waste storage area to control leaks and spills. Secondary containment areas will be sized to hold a volume equal to at least 110 percent of the largest tank (or container).

If hazardous wastes are stored out-of-doors, the secondary containment structure will also have a volume equal to at least the capacity of the largest tank (or container) plus the volume of rainfall from a 25-year, 24-hour storm event or would be covered to prevent rainwater from collecting in the containment basin. The hazardous waste storage area will be inspected and maintained frequently. Inspections and maintenance activities will be documented.

A spill control and management plan will be developed for the South Star I and II Project before commercial operation. The purpose of the spill control and management plan is to avoid accidental mixing of incompatible chemicals and spills during transfer of

chemicals. The design features for the spill control and management plan will include the secondary containment, collection, and treatment systems.

Non-hazardous wastes are governed in part by the California Integrated Waste Management Act of 1989, found in Public Resources Code (PRC) Section 40000 et seq. This law serves as a guide for an integrated statewide system of solid waste management, which includes efforts for solid waste handling, disposal, source reduction, recycling, and land disposal safety.

22 CCR 66260-66270 establish hazardous waste regulations for generators and transporters of hazardous wastes, and owners of hazardous waste TSDFs.

Hazardous wastes will be collected by a licensed hazardous waste transporter and disposed of at an off-site hazardous waste facility. Hazardous wastes will be transported offsite using hazardous waste manifests. Copies of manifests, reports, waste analyses, exception reports, land disposal restriction notices/certifications, destruction certifications, etc., will be kept onsite and accessible for inspection for three years.

The Porter-Cologne Water Quality Control Act regulates wastes that have the potential to cause loss of beneficial use of California's waters. This act requires the SWRCB to establish reportable quantities of hazardous wastes and hazardous materials based on their potential to degrade waters of the state. Any discharge of hazardous materials, which is not consistent with the discharge requirements of the facility, must be reported to the appropriate authorities.

Local LORS. The Kern County Zoning Ordinance requires the facility to comply with appropriate safety setbacks required by the Kern County Fire Department for fire safety. The Kern County Environmental Health Services Department will serve as the Certified Uniform Program Agency (CUPA) for the proposed project. Other appropriate local agencies and LORS associated with the proposed project will be addressed before construction and operation of the facility.

8.13.10 Involved Agencies

Agencies that will be directly involved with regulatory requirements during the construction and operation of the South Star I and II Project are the Kern County Environmental Health Services Department, Regional Water Quality Control Board (RWQCB), and DTSC. Agency contacts are presented in Table 8.13-5.

8.13.11 Waste Management Permits Required

Prior to construction, South Star I and South Star II will obtain a U.S. EPA identification number from the DTSC. Application and qualification for the number are dependent upon quantities and characteristics of wastes generated.

8.13.12 References

Buona, Marianna, 2001. Safety-Kleen Landfill, Buttonwillow, California. Telephone number: (661) 762-6200. Personal Communication with Angela Liang (URS Oakland), June 8.

Given, Annette, 2001. Kern County Waste Management Department. Telephone number: (661) 862-8913. Fax Received and Telephone conversation with Angela Liang (URS Oakland), July 2.

Smith, Allen, 2001. Environmental Manager, Safety-Kleen® Landfill, Imperial County, Westmorland Facility, California. Telephone number: (760) 344-9400. Personal communication with Angela Liang (URS Oakland), June 9.

SWIS, 2001. Solid Waste Information System (SWIS) Database. http://www.ciwmb.ca.gov/SWIS, June.

URS 2001. *Phase I Environmental Site Assessment; Western Kern County, California;* Date

Yarbrough, Terri, 2001. Chemical Waste Management Inc., Kettleman Hills Facility. Telephone number: (559) 386-6115. Personal communication with Angela Liang (URS Oakland), June 9.

Table 8.13-1. Hazardous Wastes Generated During Construction, Per Site

Hazardous Waste	Description	Approximate Quantity Generated
Empty hazardous material containers	Contains hazardous material residues.	Less than 1 cu.yd./wk.
Solvents, used construction equipment lube oils, paint, adhesives, and wastewater contaminated by oil, etc.	Various hazardous wastes.	7 to 10, 55-gallon drums/month.
Used and waste lube oil during CTG lube oil flushes	Excluded recyclable material.	<55 gallons/3 weeks
Waste oil from construction equipment	Excluded recyclable material.	<55 gallons/week
Oil rags, oil absorbent from CTG lube oil flushes	Contaminated with excluded recyclable material.	1 to 2, 55-gallon drums/3 weeks
Oily rags, oil absorbent generated during normal construction activities excluding lube oil flushes	Contaminated with excluded recyclable material.	3 to 4, 55-gallon drums/month
Spent batteries; lead acid	Potentially recyclable.	145 lbs./yr.
Consumer-type batteries	Waste batteries, dry, containing potassium hydroxide, solid (contains manganese dioxide)	65 lbs./yr.

Table 8.13-2. Wastewater Stream Compositions[1]

(Per Site)

Plant Drains Continuous Flow (mg/L)		Detergent CT Wash Intermittent Flow (mg/L)		Evaporative Cooler Blowdown Stream Intermediate Water Source (mg/L)	
Flow, GPD	7,200	Gallons per Wash (per CT)	14.4	Flow, GPD	14,400
Flow, GPM	5	Frequency	Monthly	Flow, GPM	10
Calcium	74	Total Alkali Metals	25	Calcium	370
Magnesium	11	Magnesium and Calcium	5	Magnesium	55
Sodium	104	Vanadium	0.1	Sodium	520
Potassium	1	Lead	0.1	Potassium	5
M alkalinity	106	Tin and Copper	10	M alkalinity	530
Sulfate	40	Sulfur	50	Sulfate	200
Chlorine	44	Chlorine	40	Chlorine	220
Silicon Dioxide	19	TOTAL SOLIDS	10	Silicon Dioxide	95
Total Dissolved Solids	299	pH	5.0 – 7.5	Total Dissolved Solids	1,495

[1] For maximum daily water consumption case.

CT – Combustion turbine
GPD – Gallons per day
GPM – Gallons per minute
mg/L – milligrams per liter

Table 8.13-3. Hazardous Wastes Generated during Facility Operations, Per Site

Hazardous Waste	Description	Approximate Annual Quantity Generated
SCR Catalyst	Waste Catalyst (contains heavy metals)	35,000 lbs./3-5 yrs.
Lubricating Oil	Excluded recyclable material	3,100 gals./6 yrs.
Used Oil	Excluded recyclable material	300 gals/yr.
Paint & Thinner Waste	Waste Paint Related Material, 3, UN1263, PG II (D001)	250 gals./yr.
Lead Acid Batteries	Waste Batteries, Wet, Filled with Acid, 8, PGIII, UN3028	290 lbs./yr.
Natural Gas Filters	Spent natural gas filters, non-RCRA hazardous waste, solid	37 lbs./yr.
Consumer-Type Batteries	Waste Batteries, Dry, Containing Potassium Hydroxide, Solid, (contains manganese dioxide)	33 lbs./yr.
Spent Sandblast Media	Hazardous Waste, Solid, (contains cadmium and lead)	75 lbs./yr.
Non-Empty Aerosol Cans	Waste Aerosols, 2.1, (contains flammable liquid)	25 lbs./yr.

Table 8.13-4 Waste Management Laws, Ordinances, Regulations, and Standards

Jurisdiction	Authority	Administering Agency	Requirements & Compliance	AFC Conformance Section
Federal	Resource Control and Recovery Act (RCRA) 40 CFR 260 - 272	EPA, Region IX	Management of hazardous wastes. California is an authorized state for RCRA.	8.13.2
	49 CFR 172, 173, and 179	California Highway Patrol (CHP) and Federal Department of Transportation (DOT)	Project will meet standards for labels, placards, packaging, and markings on hazardous waste shipments.	8.13.2
	42 USC 6922 Solid Waste Disposal Act/RCRA	EPA, Region IX and Cal EPA; DTSC	Project will meet standards for record keeping, labeling practices, notification requirements, use of a manifest system, and reporting requirements from generators.	8.13.2
State	Hazardous Waste Control Act of 1972, as amended; CA Health & Safety Code 25100 et seq.; 22 CCR 66001 et seq.	DTSC; Kern County Environmental Health Services Department	Management of hazardous wastes.	8.13.2
	CA Health & Safety Code 25500 - 25541	CIWMB; Kern County Environmental Health Services and Waste Management Departments	Project will ensure non-hazardous wastes are disposed of separately and appropriately from hazardous wastes.	8.13.2
	22 CCR 67100	Kern County Environmental Health Services Department	Project will prepare plan for reducing hazardous waste generation, and prepare associated performance report.	8.13.5
	22 CCR 66260 – 66270	DTSC; Kern County Environmental Health Services Department	Project will comply with regulations for generators of hazardous wastes.	8.13.2

Table 8.13-4 (Continued)

Jurisdiction	Authority	Administering Agency	Requirements & Compliance	AFC Conformance Section
State (continued)	California Porter-Cologne Water Quality Control Act	SWRCB; RWQCB Central Valley Region	Project will comply with waste discharge requirements (WDR) for septic system and injection wells, if applicable.	8.14.2
Local	Kern County Zoning Ordinance, Development Standards 19.80.030	Kern County Engineering and Design Services Department and Kern County Fire Department	Project will comply with safety setbacks as required by the Kern County Fire Department.	8.7.3.1, 8.7.3.2
Industry Codes	AICHE – Center for Chemical Process Safety, 1985 Guidelines	California OES	Project will comply with chemical hazard evaluation procedures as required.	8.12.6

Table 8.13-5. Involved Agencies and Agency Contacts

Agency	Contact	Reason for Involvement
Kern County Environmental Health Services Department 2700 "M" Street, Suite 125 Bakersfield, CA 93301	Permit Assistance Center (661) 862-5175	Notification required if pre-existing on-site contaminated soil is considered hazardous. Issues Hazardous Waste Generator License equivalent via acceptance of facility's Hazardous Materials Business Plan.
Regional Water Quality Control Board Central Valley Region 3614 East Ashlan Ave. Fresno, CA 93726	Reza Afhami (559) 445-6194	Notification required of design and specifications of on-site septic tank and leach field system.
Department of Toxic Substances Control 400 P Street P.O. Box 806 Sacramento, CA 95812-0806	EPA ID Center (916) 324-1781	Application for EPA Identification Number.